# Test Specification – Project 1 (RU Vehicle Management System)

### Java class name: Date Method signature: public boolean isValid()

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| Test Case # | Functional Requirement, or Test Objective | Test description and Input Data | Expected result/output |
| 1 | The method shall return false for any date with a year <= 0. | Create an instance of Date with month=1, day=1, year=0. Test input: Date(1, 1, 0) | false |
| 2 | The valid range for the month shall be >= 1 and <= 12. The method shall return false for a month value outside the valid range. | Create an instance of Date with month=13, day=19, year=2000. Test input: Date(13, 19, 2000) | false |
| 3 | The number of days in February for a non-leap year shall be 28. The method shall return false if the date given has 29 days for a non-leap year. | Create an instance of Date with month=2, day=29, year=1999. Test input: Date(2, 29, 1999) | false |
| 4 | The method shall return false if the day value exceeds the number of days in the given month. | Create an instance of Date with month=6, day=31, year=2000. Test input: Date(6, 31, 2000) | false |
| 5 | The method shall return true for a valid leap day. | Create an instance of Date with month=2, day=29, year=2024 (leap year). Test input: Date(2, 29, 2024) | true |
| 6 | The method shall return true for a valid normal date. | Create an instance of Date with month=12, day=31, year=2025. Test input: Date(12, 31, 2025) | true |

### Java class name: Vehicle Method signature: public int compareTo(Vehicle o)

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| Test Case # | Functional Requirement, or Test Objective | Test description and Input Data | Expected result/output |
| 1 | compareTo() should return -1 if this vehicle is less than the other. | Compare Vehicle a (Chevy, 1/1/2020) with Vehicle b (Chevy, 1/1/2021). Test input: a.compareTo(b) | -1 |
| 2 | compareTo() should return 0 if two vehicles are equal in make and obtained date. | Compare Vehicle b (Chevy, 1/1/2021) with Vehicle c (Chevy, 1/1/2021). Test input: b.compareTo(c) | 0 |
| 3 | compareTo() should return 1 if this vehicle is greater than the other. | Compare Vehicle d (Ford, 1/1/2019) with Vehicle a (Chevy, 1/1/2020). Test input: d.compareTo(a) | 1 |